

CLAIMS

Having described and established the nature of the invention, its scope and the way in which it may be put into practice in its essential idea, the following is established to be an invention and of exclusive property:

5 1.-Procedure to obtain a product consisting in a partially low-fat flour with a high content of stabilized polyunsaturated fatty acids, especially Ω_3 type of the kind that includes a first stage of selection of seeds of *Salvia Hispanica* L. and their incorporation into pressing equipment, characterized because it comprises a second pressing stage of such seeds with temperature control, changing the ratio between polyunsaturated fatty acids and antioxidants
10 contained and obtaining an expeller, a third step in which the obtained expeller is left to cool until it reaches room temperature and a fourth step in which the expeller, already at room temperature, is entered into a disc-driven mill to obtain different particle sizes of a partially low-fat flour with a high content of polyunsaturated fatty acids, especially Ω_3 type.

 2.-A procedure, which pursuant to claim number 1, characterized because during the
15 second step a simple screw-using extruder is used to perform careful and gradual pressing and maintaining the molecular cis-cis structure of polyunsaturated fatty acids, concentrating and preserving natural antioxidants and separating a fraction of the oil contained in the seeds.

 3.-A procedure, pursuant to claim number 1, characterized because during the second
20 step the working temperature is kept below
 45 ° C.-

 4.-A procedure, pursuant to claim number 1, characterized because during the second step, the modification of the ratio between polyunsaturated fatty acids and antioxidants is performed by reducing the percentage of polyunsaturated fatty acids contained.

25 5.-A product consisting in a partially low-fat flour with a high content of polyunsaturated and stabilized fatty acids, especially Ω_3 type obtained with the procedure of claim 1, characterized because it provides between three and twenty nine percent of fats, between sixteen and twenty-seven percent of protein, between twenty and thirty four percent of dietary fiber of which at least a forty percent is insoluble dietary fiber, the product of
30 which provides up to seven percent of oleic acid, up to twenty three percent of linoleic acid, up to sixty three percent of alpha-linolenic acid, up to seven percent of palmitic acid, up to three percent of stearic acid and less than a tenth of a part percent of myristic acid, the product of which provides threonine, lysine and leucine and a mixture of oils which includes, at least, α -caryophyllene; α -bourbonene; α -pinene; widdrol; germacrene; linalool; valencene;

muurolene; globulol; α -humulene and β -cadinol, likewise it includes vitamin A, riboflavin and thiamin, the product of which includes at least calcium, potassium, magnesium, phosphorus, aluminum, boron, copper manganese, molybdenum and zinc and the product of which also includes chlorogenic acid, miricetin, quercetin, kaempferol and caffeic acid.

5 6.-A product, pursuant to claim 5, characterized because it provides between nineteen and twenty one percent of fat, between twenty one and twenty three percent of protein and between twenty five and twenty seven percent of dietary fiber of which, at least a forty percent is insoluble dietary fiber.

10 7.-A sub-product consisting in an low-fat and stable expeller, made of *Salvia Hispanica* L. seeds, containing polyunsaturated fatty acids, especially Ω_3 type obtained through the procedure of claim 1, characterized because it provides up to a twenty nine percent of fatty matter, up to twenty seven percent of protein, up to thirty four percent of dietary fiber of which at least a forty percent is insoluble dietary fiber; up to a seven percent of oleic acid, up to a twenty three percent of linoleic acid, up to sixty three percent of α -linolenic acid, up to seven percent of palmitic acid, up to three percent of stearic acid and less than a tenth of a part of myristic acid, the sub-product of which provides threonine, lysine and leucine and a mixture of oils that include at least β -caryophyllene; β -bourbonene; β -pinene; widdrol; germacrene; linalool; valencene; muurolene; globulol; α -humulene and β -cadinol, it also includes vitamin A, niacine, riboflavin and thiamin, the sub-product of which includes at least calcium, potassium, magnesium, phosphorus, aluminum, boron, copper manganese, molybdenum and zinc and the sub-product of which also includes chlorogenic acid, miricetin, quercetin, kaempferol and caffeic acid.

25 8.-A method for the incorporation of the product of claim 5, consisting in a partially low-fat flour with a high content of stabilized, polyunsaturated fatty acids, especially Ω_3 type, obtained with the procedure of claim 1, as dietary supplement, of the type included in the first stage of adding of the product and at least one product selected from among:

a.-A type of flour selected from wheat flour, corn flour, soy flour

or a type of flour or mixture of flour made of cereal, or a type of flour or flour made of legumes and additives in general,

30 b.-A meat-based, seasoning and additives in general,

c.-a vegetable-based paste, seasoning and additives in general, and

d.-a dairy product,

in a mixer and mixed until homogenized and a second stage of fractioning of the homogenized mixture and cooking, characterized because in such first stage the product which is added represents up to a ninety eight percent in weight of its components.

9.-A method, pursuant to claim 8, of the type that includes a first stage of adding of a product characterized because in such first stage the product added is a type of partially low-fat flour with a high content of stabilized, polyunsaturated fatty acids, especially Ω_3 type which represent between one and four percent in weight o its components.

10.-A method for the incorporation of the sub-product of claim 7, consisting in an low-fat and stable expeller, made of *Salvia Hispanica* L. seeds, containing polyunsaturated fatty acids, especially Ω_3 type obtained with the procedure of claim 1, to be used as dietary supplement and is the type which includes a first stage of adding of the sub product and at least one product selected among:

a.-A kind of flour selected among wheat flour, corn flour, soy flour or a flour or mixture of flour made of cereal, or a type of flour or mixture of flour made of legumes and additives in general.

b.- b.-A meat-based paste, seasoning and additives in general,

c.-a vegetable-based paste, seasoning and additives in general, and

d.-a dairy product,

in a mixer and mixed until homogenized and a second stage of fractioning of the homogenized mixture and , in its case, cooking, characterized because in such first stage the product which is added represents up to a ninety eight percent in weight of its components.

11.-A method, pursuant to claim 10, characterized because the sub-product added as dietary supplement is an low-fat and stable expeller, made of *Salvia Hispanica* L. seeds, containing polyunsaturated fatty acids, especially Ω_3 type , represents up to eight percent in the weight of its components.